^{136}Xe(γ,γ') 2011Sa38,2006Vo04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 152, 331 (2018)	1-Apr-2018

2011Sa38: E(γ)=bremsstrahlung with end point energy of 9.2 MeV (to ensure sufficient flux up to the neutron separation energy) and end point energy of 8.0 MeV (just below the neutron separation energy). Measured Eγ, Iγ, $\gamma(\theta)$ using three Compton-suppressed HPGe detectors at angles of 90° and 130°. Subset of results given in 2009SaZW, 2008Sa19, 2008SaZL.

2006Vo04: E(γ)=bremsstrahlung with end point energy of 4.1 MeV. Measured Eγ, Iγ, $\gamma(\theta)$ using three Compton-suppressed HPGe detectors at angles of 90°, 127°, and 150°.

^{136}Xe Levels

E(level)[†]	J$^{\pi}$[‡]	Γ_0^2/Γ[#]	$I_{S,0}$ (eV b)[a]	Comments
0	0$^+$			
1313[@]	2[&]	0.83×10^{-3} eV *12*	9.2 *8*	Γ_0^2/Γ: Γ_0 from 2006Vo04.
2289[@]	(1,2)[&]	0.45×10^{-3} eV *13*	1.6 *3*	Γ_0^2/Γ: Γ_0 from 2006Vo04.
2415[@]	2[&]	1.31×10^{-3} eV *21*	4.3 *4*	Γ_0^2/Γ: Γ_0 from 2006Vo04.
2869[@]	(1,2)[&]	1.39×10^{-3} eV *19*	1.9 *3*	Γ_0^2/Γ: Γ_0 from 2006Vo04.
3350[@]	(1,2)[&]	1.29×10^{-3} eV *34*	2.2 *4*	Γ_0^2/Γ: Γ_0 from 2006Vo04.
3626 *1*	1	0.027 eV *6*	12.3 *10*	J$^{\pi}$: from $\gamma(\theta)$ in 2006Vo04. Other: 1,2 from $\gamma(\theta)$ in 2011Sa38. Γ_0^2/Γ: Γ_0=0.0252 *19* in 2006Vo04.
3675[@]	2[&]	5.2×10^{-3} eV *9*	7.4 *7*	Γ_0^2/Γ: Γ_0 from 2006Vo04.
3738 *1*	1	0.057 eV *5*		
4473 *1*	1	0.120 eV *8*		
4711 *1*	1	0.217 eV *13*		
4890 *1*	1	0.175 eV *11*		
4929 *1*	1	0.341 eV *19*		
5128 *1*	1	0.199 eV *13*		
5187 *1*	1	0.088 eV *8*		
5322 *1*	1	1.66 eV *9*		
5352 *1*	1	0.072 eV *9*		
5458 *1*	1,2	0.122 eV *17*		
5608 *1*	1	0.49 eV *3*		
5639 *1*	1	0.210 eV *17*		
5651 *1*	1	0.441 eV *26*		
5728 *1*	1	0.382 eV *24*		
5801 *1*	1	2.02 eV *11*		
5872 *1*	1	2.05 eV *11*		
5888 *1*	1	2.59 eV *13*		
5914 *1*	1	1.36 eV *7*		
6003 *1*	1,2	0.126 eV *18*		
6030 *1*	1,2	0.088 eV *16*		
6105 *1*	1	0.159 eV *26*		
6115 *1*	1	0.66 eV *5*		
6127 *1*	1	1.10 eV *7*		
6227 *1*	1	0.30 eV *5*		
6254 *1*	1	0.24 eV *3*		
6301 *1*	1	1.99 eV *11*		
6310 *1*	1	0.63 eV *4*		
6324 *1*	1	0.214 eV *22*		
6354 *1*	1	0.80 eV *5*		
6372 *1*	1	0.11 eV *3*		
6430 *1*	1	0.64 eV *4*		
6455 *1*	1	1.38 eV *8*		
6493 *1*	1	2.62 eV *14*		
6509 *1*	1	0.49 eV *3*		

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$^{136}Xe(\gamma,\gamma')$ 2011Sa38,2006Vo04 (continued)

^{136}Xe Levels (continued)

E(level)[†]	J^{π}[‡]	Γ_0^2/Γ[#]	E(level)[†]	J^{π}[‡]	Γ_0^2/Γ[#]	E(level)[†]	J^{π}[‡]	Γ_0^2/Γ[#]
6527 *1*	1	0.41 eV *3*	6884 *1*	1	0.34 eV *3*	7212 *1*	1	0.91 eV *9*
6562 *1*	1	2.43 eV *13*	6942 *1*	1	0.67 eV *5*	7232 *1*	1	1.00 eV *7*
6577 *1*	1	0.70 eV *4*	6968 *1*	1	0.34 eV *3*	7245 *1*	1	0.36 eV *4*
6665 *1*	1	1.81 eV *10*	7013 *1*	1	1.01 eV *6*	7343 *1*	1	0.29 eV *3*
6684 *1*	1	0.48 eV *5*	7023 *1*	1	0.68 eV *5*	7370 *1*	1	0.36 eV *4*
6691 *1*	1	1.19 eV *8*	7053 *1*	1	0.40 eV *3*	7692 *1*	1	0.78 eV *6*
6704 *1*	1	1.32 eV *8*	7071 *1*	1	0.67 eV *5*	7727 *1*	1	1.69 eV *11*
6715 *1*	1	1.17 eV *7*	7082 *1*	1	1.44 eV *8*	7883 *1*	1	0.80 eV *9*
6734 *1*	1	0.67 eV *4*	7094 *1*	1	0.28 eV *4*	7908 *1*	1	1.65 eV *14*
6771 *1*	1	3.46 eV *18*	7121 *1*	1	0.39 eV *3*	7990 *1*	1	0.75 eV *9*
6797 *1*	1	0.54 eV *4*	7134 *1*	1	0.25 eV *4*	8024 *1*	1	1.40 eV *12*
6808 *1*	1	0.19 eV *3*	7165 *1*	1	3.43 eV *18*	8051 *1*	1	1.11 eV *11*
6861 *1*	1	0.41 eV *4*	7193 *1*	1	0.74 eV *8*	8066 *1*	1	0.86 eV *9*
6869 *1*	1	0.62 eV *5*	7200 *1*	1	0.84 eV *8*	8093 *1*	1	1.02 eV *10*

[†] From 2011Sa38, except where noted.
[‡] From $\gamma(\theta)$ (2011Sa38), except where noted.
[#] Partial decay width from 2011Sa38, except where noted.
[@] From 2006Vo04.
[&] From $\gamma(\theta)$ in 2006Vo04.
[a] Total elastic scattering intensity (2006Vo04).

$\gamma(^{136}Xe)$

W(θ) values in comments from $\gamma(\theta)$ in 2011Sa38 defined as W(θ)=Iγ(90°)/Iγ(130°). Expected values are 2.1 for quadrupole transitions and 0.7 for dipole transitions.

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
1313[@]		1313	2	0	0^+	Q[&]	
2289[@]		2289	(1,2)	0	0^+	D,Q[&]	
2313[@]	308 *49*	3626	1	1313	2		
2415[@]		2415	2	0	0^+	Q[&]	
2869[@]		2869	(1,2)	0	0^+	D,Q[&]	
3350[@]		3350	(1,2)	0	0^+	D,Q[&]	
3626 *1*	100	3626	1	0	0^+	D[&]	W(θ)=1.2 *5*.
3675[@]		3675	2	0	0^+	Q[&]	
3738 *1*		3738	1	0	0^+	D	W(θ)=0.93 *13*.
4473 *1*		4473	1	0	0^+	D	W(θ)=0.95 *9*.
4711 *1*		4711	1	0	0^+	D	W(θ)=0.76 *5*.
4890 *1*		4890	1	0	0^+	D	W(θ)=0.81 *7*.
4929 *1*		4929	1	0	0^+	D	W(θ)=0.77 *4*.
5128 *1*		5128	1	0	0^+	D	W(θ)=0.75 *6*.
5187 *1*		5187	1	0	0^+	D	W(θ)=0.71 *10*.
5322 *1*		5322	1	0	0^+	D	W(θ)=0.76 *1*.
5352 *1*		5352	1	0	0^+	D	W(θ)=0.74 *17*.
5458 *1*		5458	1,2	0	0^+	D,Q	W(θ)=1.4 *4*.
5608 *1*		5608	1	0	0^+	D	W(θ)=0.72 *4*.
5639 *1*		5639	1	0	0^+	D	W(θ)=0.75 *9*.

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^{136}Xe(γ,γ′) 2011Sa38,2006Vo04 (continued)

γ(^{136}Xe) (continued)

Eγ†	Ei(level)	J^π_i	E_f	J^π_f	Mult.#	Comments
5651 *1*	5651	1	0	0+	D	W(θ)=0.72 *5*.
5728 *1*	5728	1	0	0+	D	W(θ)=0.74 *5*.
5801 *1*	5801	1	0	0+	D	W(θ)=0.77 *3*.
5872 *1*	5872	1	0	0+	D	W(θ)=0.77 *2*.
5888 *1*	5888	1	0	0+	D	W(θ)=0.78 *2*.
5914 *1*	5914	1	0	0+	D	W(θ)=0.80 *2*.
6003 *1*	6003	1,2	0	0+	D,Q	W(θ)=1.2 *3*.
6030 *1*	6030	1,2	0	0+	D,Q	W(θ)=1.7 *8*.
6105 *1*	6105	1	0	0+	D	W(θ)=1.0 *3*.
6115 *1*	6115	1	0	0+	D	W(θ)=0.82 *6*.
6127 *1*	6127	1	0	0+	D	W(θ)=0.88 *5*.
6227 *1*	6227	1	0	0+	D	W(θ)=1.0 *4*.
6254 *1*	6254	1	0	0+	D	W(θ)=0.63 *16*.
6301 *1*	6301	1	0	0+	D	W(θ)=0.80 *3*.
6310 *1*	6310	1	0	0+	D	W(θ)=0.89 *8*.
6324 *1*	6324	1	0	0+	D	W(θ)=0.75 *13*.
6354 *1*	6354	1	0	0+	D	W(θ)=0.78 *5*.
6372 *1*	6372	1	0	0+	D	W(θ)=0.8 *4*.
6430 *1*	6430	1	0	0+	D	W(θ)=0.80 *6*.
6455 *1*	6455	1	0	0+	D	W(θ)=0.74 *3*.
6493 *1*	6493	1	0	0+	D	W(θ)=0.73 *2*.
6509 *1*	6509	1	0	0+	D	W(θ)=0.74 *7*.
6527 *1*	6527	1	0	0+	D	W(θ)=0.82 *10*.
6562 *1*	6562	1	0	0+	D	W(θ)=0.73 *2*.
6577 *1*	6577	1	0	0+	D	W(θ)=0.70 *5*.
6665 *1*	6665	1	0	0+	D	W(θ)=0.77 *3*.
6684 *1*	6684	1	0	0+	D	W(θ)=0.70 *12*.
6691 *1*	6691	1	0	0+	D	W(θ)=0.81 *6*.
6704 *1*	6704	1	0	0+	D	W(θ)=0.75 *4*.
6715 *1*	6715	1	0	0+	D	W(θ)=0.85 *6*.
6734 *1*	6734	1	0	0+	D	W(θ)=0.80 *7*.
6771 *1*	6771	1	0	0+	D	W(θ)=0.83 *2*.
6797 *1*	6797	1	0	0+	D	W(θ)=0.81 *9*.
6808 *1*	6808	1	0	0+	D	W(θ)=0.77 *23*.
6861 *1*	6861	1	0	0+	D	W(θ)=0.70 *11*.
6869 *1*	6869	1	0	0+	D	W(θ)=0.79 *9*.
6884 *1*	6884	1	0	0+	D	W(θ)=0.71 *10*.
6942 *1*	6942	1	0	0+	D	W(θ)=0.68 *6*.
6968 *1*	6968	1	0	0+	D	W(θ)=0.47 *6*.
7013 *1*	7013	1	0	0+	D	W(θ)=0.79 *6*.
7023 *1*	7023	1	0	0+	D	W(θ)=0.64 *6*.
7053 *1*	7053	1	0	0+	D	W(θ)=0.74 *10*.
7071 *1*	7071	1	0	0+	D	W(θ)=0.99 *11*.
7082 *1*	7082	1	0	0+	D	W(θ)=0.86 *5*.
7094 *1*	7094	1	0	0+	D	W(θ)=0.90 *25*.
7121 *1*	7121	1	0	0+	D	W(θ)=0.79 *11*.
7134 *1*	7134	1	0	0+	D	W(θ)=0.84 *26*.
7165 *1*	7165	1	0	0+	D	W(θ)=0.77 *2*.
7193 *1*	7193	1	0	0+	D	W(θ)=1.01 *19*.
7200 *1*	7200	1	0	0+	D	W(θ)=0.73 *11*.
7212 *1*	7212	1	0	0+	D	W(θ)=1.15 *22*.
7232 *1*	7232	1	0	0+	D	W(θ)=0.81 *6*.
7245 *1*	7245	1	0	0+	D	W(θ)=0.79 *12*.
7343 *1*	7343	1	0	0+	D	W(θ)=0.69 *13*.
7370 *1*	7370	1	0	0+	D	W(θ)=0.83 *14*.
7692 *1*	7692	1	0	0+	D	W(θ)=0.59 *6*.

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^{136}Xe(γ,γ') **2011Sa38,2006Vo04 (continued)**

γ(^{136}Xe) (continued)

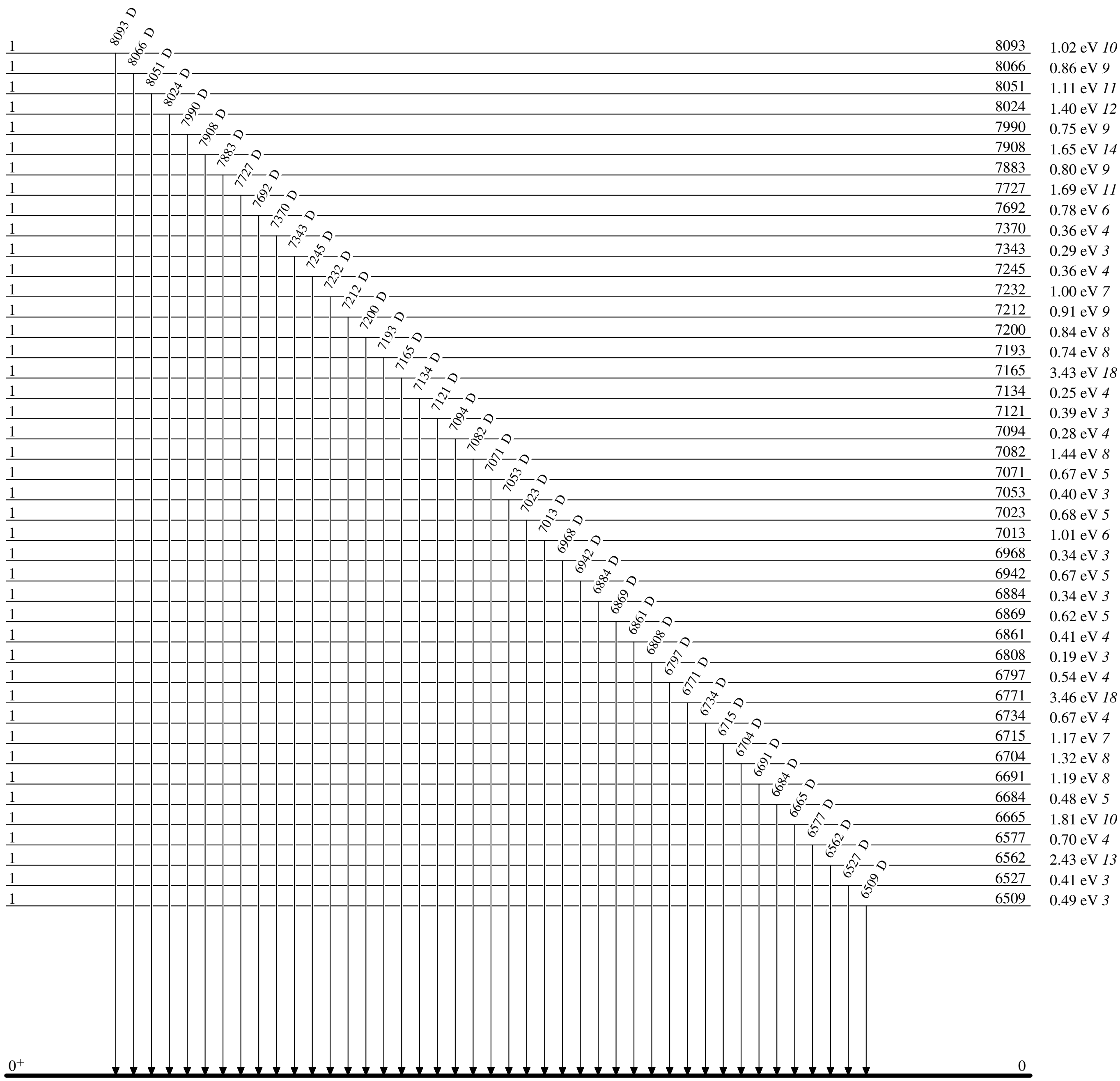
E_γ [†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	Comments
7727 *1*	7727	1	0	0^+	D	W(θ)=0.80 *6*.
7883 *1*	7883	1	0	0^+	D	W(θ)=0.93 *17*.
7908 *1*	7908	1	0	0^+	D	W(θ)=0.83 *8*.
7990 *1*	7990	1	0	0^+	D	W(θ)=0.98 *20*.
8024 *1*	8024	1	0	0^+	D	W(θ)=0.76 *8*.
8051 *1*	8051	1	0	0^+	D	W(θ)=0.93 *13*.
8066 *1*	8066	1	0	0^+	D	W(θ)=0.75 *12*.
8093 *1*	8093	1	0	0^+	D	W(θ)=0.77 *10*.

† From excitation energies given in 2011Sa38, except where noted. Due to large uncertainties, evaluator has not removed the recoil correction.
‡ From 2006Vo04.
# From γ(θ) in 2011Sa38, except where noted.
@ From 2006Vo04.
& From γ(θ) in 2006Vo04. Authors states that Q assignments are made when W(90°)/W(127°) intensity ratio is more than three standard deviations away from the dipole expectation value and within two standard deviations in agreement with the quadrupole expectation value, however, numerical values are not provided.

^{136}Xe(γ,γ′) 2011Sa38,2006Vo04

Level Scheme

Intentities: Type not specified

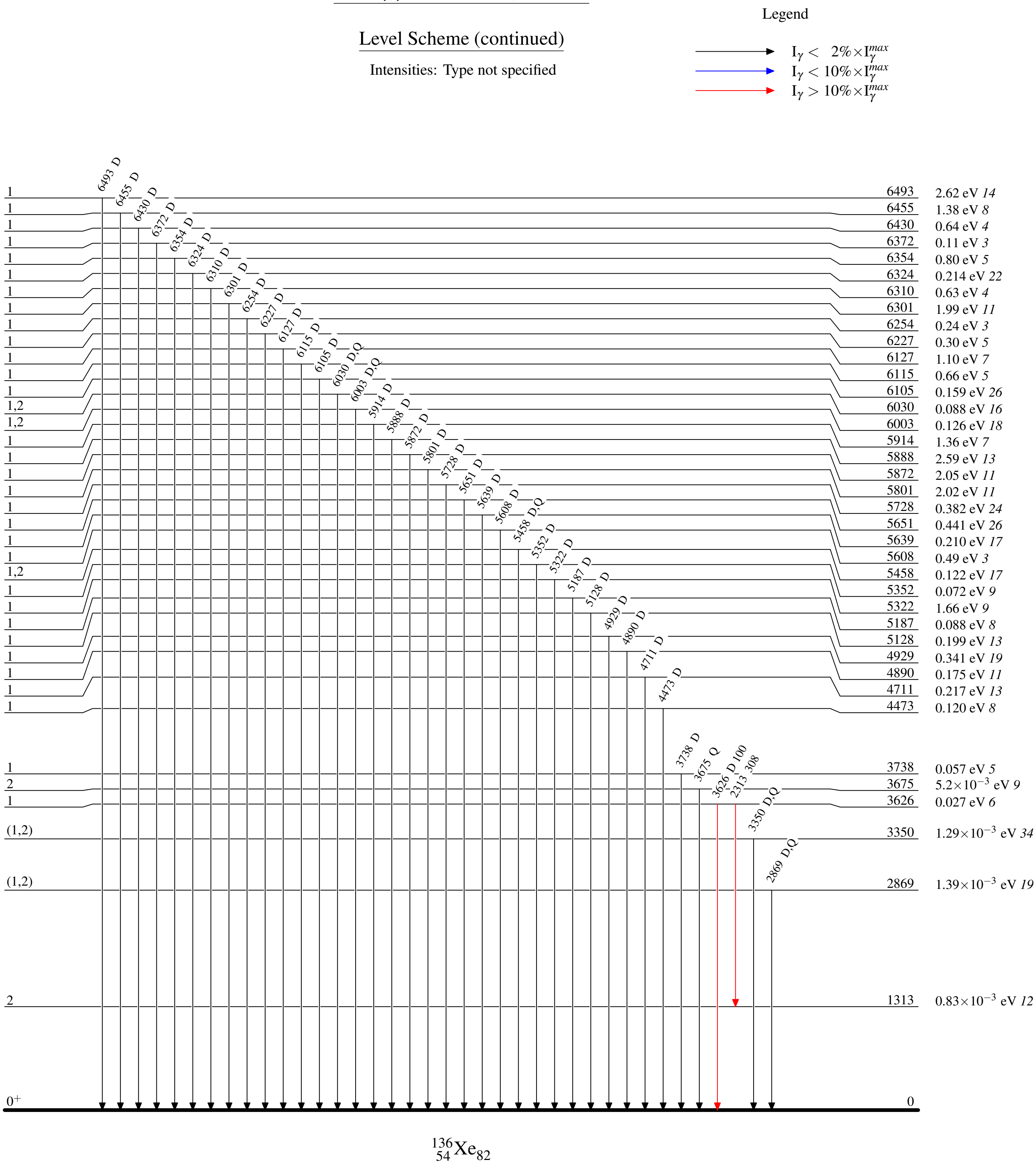


$^{136}_{54}Xe_{82}$

$^{136}Xe(\gamma,\gamma')$ 2011Sa38,2006Vo04

Level Scheme (continued)

Intensities: Type not specified



$^{136}Xe(\gamma,\gamma')$ 2011Sa38,2006Vo04

Level Scheme (continued)

Intensities: Type not specified